

Otay Lakes

8.1.8



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8.1.8.a *Proctor Valley (R 1)*

Site Description and Existing Conditions

This site (R 1) occurs on 157 acres owned and managed by the City of San Diego Water Department in Proctor Valley. Although the site is not conserved, it is obligated open space as part of the MSCP Cornerstone Bank Agreement and is within in the MHPA (City of San Diego, 1997).

Eighteen vernal pools were mapped on the City-owned parcel and an additional basin occurs on an adjacent private parcel (1016 m² [0.251 acres] of total basin area). All vernal pools are natural and occur on Olivenhain cobbly loam soil, and upland vegetation is characterized by grasslands and coastal sage scrub. Fairy shrimp (*Branchinecta sandiegonensis*) were observed at Proctor Valley.

This site has been used for cattle grazing, which resulted in a colonization of the site by exotic plant species. Currently, Proctor Valley Road bisects the vernal pool complex and provides access for off-road vehicle users and trash dumping. Major impacts from ORVs were recorded in 1996, 2004, 2005 and 2006.

Several management actions recommended by the City of San Diego Vernal Pool Management Plan (1996) have been accomplished. The 1996 document suggested a thorough investigation of any unidentified resources, which was completed as part of the City of San Diego 2002-2003 Vernal Pool Inventory. An assessment of vernal pool resources and an inspection of the physical condition of the site were also included in the inventory.

Threats

Development

The area is part of the MSCP Cornerstone Lands and may not be developed under the MSCP Implementing Agreement.

Invasive Species

Natural upland areas are coastal sage scrub/chamise chaparral; however, historic grazing has introduced non-native grasses and *Erodium* spp. to many areas, and off-road vehicles have completely denuded large areas within and adjacent to the vernal pools.

Trespass

Trespass is a major threat, as noted in the Vernal Pool Management Plan (City of San Diego, 1996). In particular, off-road vehicles tracks are present in the basins and watershed of several vernal pools. Dumping has also been a continuing problem in this area (City of San Diego, 1996).

Fire/Fire Suppression

Proctor Valley is adjacent to large rural and preserve areas where fire plays an important part in the natural ecologic regime. This site was at the western edge of the Otay fire of October, 2003. The nearby Otay Lakes vernal pools burned in 2003 and comparison of pre- and post-fire surveys do not appear to reveal damage to sensitive species or their physical habitat. Therefore, fire does not appear to threaten the species presence or

abundance of vernal pool ecosystems. However, fire-fighting activities may disturb this area.

Grazing

Grazing is not currently permitted on City lands in Proctor Valley. However, cattle have been grazed on adjacent lands and may impact vernal pools if off-site fences are not properly maintained.

Current Management Activities

City of San Diego Water Department field crews respond to litter problems. The Water Department is coordinating with the San Diego National Wildlife Refuge and the San Diego Sheriff's Department to enforce trespass laws, in particular relating to off-road vehicle use and dumping. Additional barriers and signage are being installed as well.

A SANDAG TransNet grant has been secured to provide funding for fencing, basin restoration, invasive species control and reintroduction of sensitive species.

Management Recommendations

The Vernal Pool Management Plan (City of San Diego, 1996) made the following recommendations for this site: Investigate previously unidentified resources, conduct assessment of vernal pool resources, conduct inspections of physical conditions and restore disturbed areas. The first three recommendations have been accomplished as part of the 2002-2003 Vernal Pool Inventory (City of San Diego, 2004).

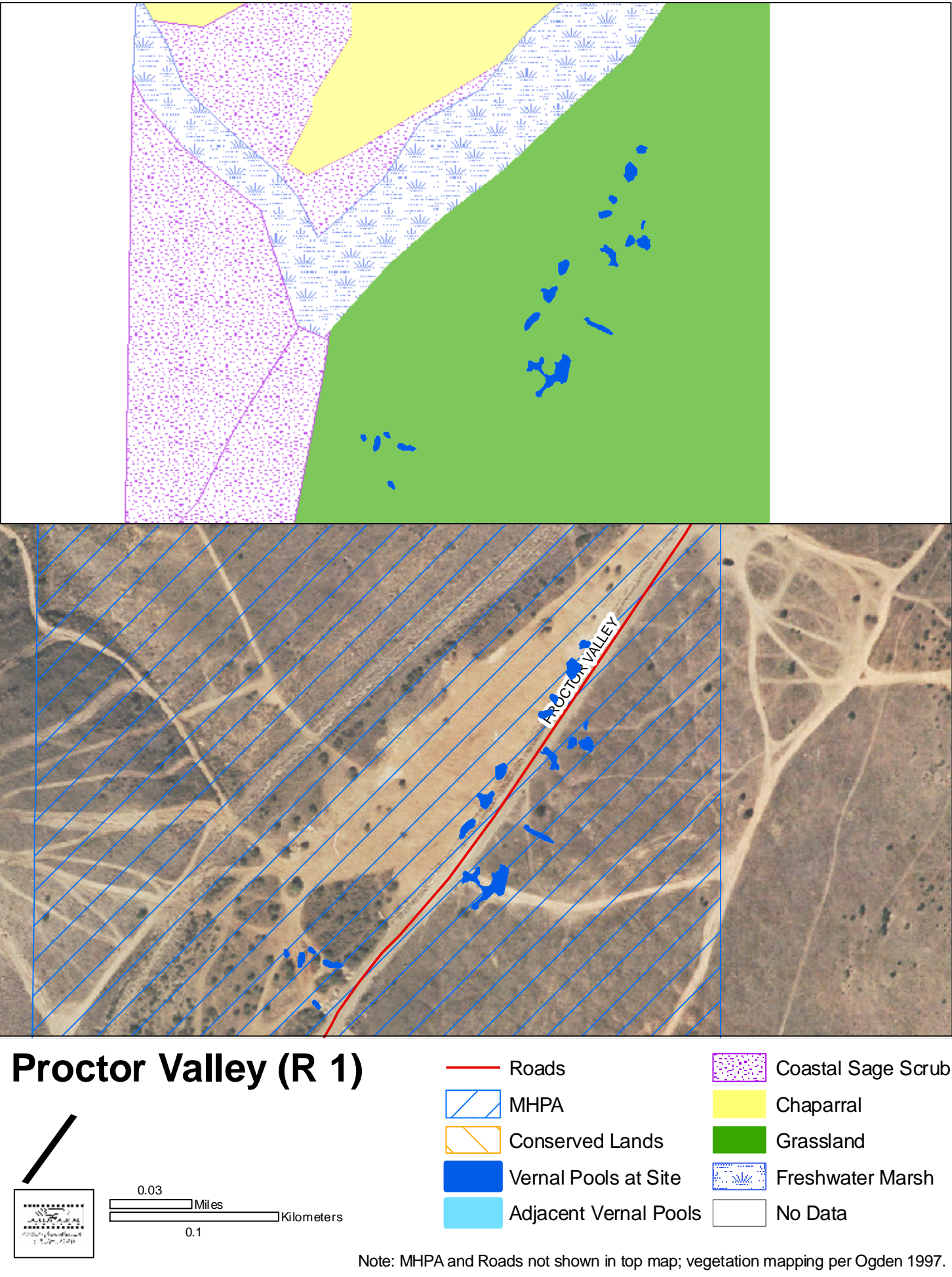
Restoration of disturbed areas (i.e. invasive species control and repair of pool basins) should occur as funds become available and must include measures to limit additional impacts from illegal trespass; land managers are encouraged to seek alternative funding sources, such as grants, for site restoration. Restoration should also include reintroduction of species locally extirpated by off-road vehicle and/or grazing impacts.

Restoration and reintroduction efforts shall utilize seeds from within the smallest possible geographic range, in the following order, as necessary: complex, series, geographic region (i.e. Otay Mesa).

This site was identified as necessary to stabilize the populations of *E. aristulatum* and *N. fossalis* by the adopted *Recovery Plan for Vernal Pools of Southern California* (USFWS, 1998). All future management activities should promote the recovery of these species. Vernal pools should be fenced as funding becomes available. Continue enforcement against illegal trespassers.

Given the area's fire history and its proximity to development, the necessity of future fire suppression efforts are likely. To decrease the threat of damage to vernal pools, signage providing identification of sensitive resource areas should be installed. If funding becomes available, this may also include the preparation of a fire management plan for the site. Following any future fires, vernal pool surveys shall be conducted by a qualified biologist at appropriate intervals to determine impacts, if any.

Figure 40



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8.1.8.b Otay Lakes (K 3, 5, 10, 13)

Site Description and Existing Conditions

The Otay Lakes (K 3, 5, 10, 13) vernal pool site is located on 632 acres owned and managed by the City of San Diego Water Department. Although the area is not considered conserved, it is obligated open space as part of the MSCP Cornerstone Bank Agreement and is included in the MHPA (City of San Diego, 1997).

Eighty-seven vernal pools (2.89 acres [12,059.63 m²] [1.17 ha] of basin area) were mapped at Otay Lakes. All vernal pools are natural. Soils include loams from the Olivenhain, San Miguel, and Redding series. Upland vegetation is characterized by chamise chaparral with herbaceous cover such as *Erodium* spp., and the vernal pools support populations of *E. aristulatum* and *N. fossalis*.

The site was leased for grazing until 2001, and impacts from cattle (e.g., hoof indentations) are still visible in vernal pool basins. The vernal pools at Otay Lakes were burned in the Otay Fire of 2003.

Several management actions recommended by the City of San Diego Vernal Pool Management Plan (1996) have been accomplished. The 1996 document suggested a thorough investigation of any unidentified resources, which was completed as part of the City of San Diego 2002-2003 Vernal Pool Inventory. An assessment of vernal pool resources and an inspection of the physical condition of the site were also included in the inventory.

Threats

Invasive Species

The primary herbaceous species at Otay Lakes are *Hemizonia fasciculata* and *Erodium* spp. While *H. fasciculata* is a native plant and does not appear to negatively affect the vernal pools, high concentrations of *Erodium* spp. are commonly found within vernal pool basins.

Fire/Fire Suppression

Otay Lakes is adjacent to large rural and preserve areas where fire plays an important part in the natural ecologic regime. These vernal pools burned most recently in 2003, and comparison of pre- and post-fire surveys does not appear to reveal damage to sensitive species or their physical habitat. Therefore, fire does not appear to threaten the species presence or abundance of vernal pool ecosystems.

As noted in the Vernal Pool Management Plan (City of San Diego, 1996), fire-fighting activities may disturb this area. Although the site burned in 2003, Lower Otay Reservoir provided a natural fire-break between the open space and nearby development so that destructive fire suppression efforts in sensitive habitat areas were not necessary.

Trespass

The threat of trespass (i.e., ORVs) is reduced due to natural barriers such as Lower Otay Reservoir and Otay Mountain. In addition, the City of San Diego Water Department has fenced sections of the boundary to discourage access and has provided gates at vehicle

entrance points. As noted in the Vernal Pool Management Plan (City of San Diego, 1996), although the potential exists, this threat is relatively minor.

Current Management Activities

Access to the area supporting vernal pools is limited by the Water Department, which provides patrols, fencing, and signage.

The Otay Lakes vernal pools were surveyed one month and seven months after the Otay Fire to determine damage, if any, sustained by the vernal pools.

A SANDAG TransNet grant will provide invasive species control in 2007.

Management Recommendations

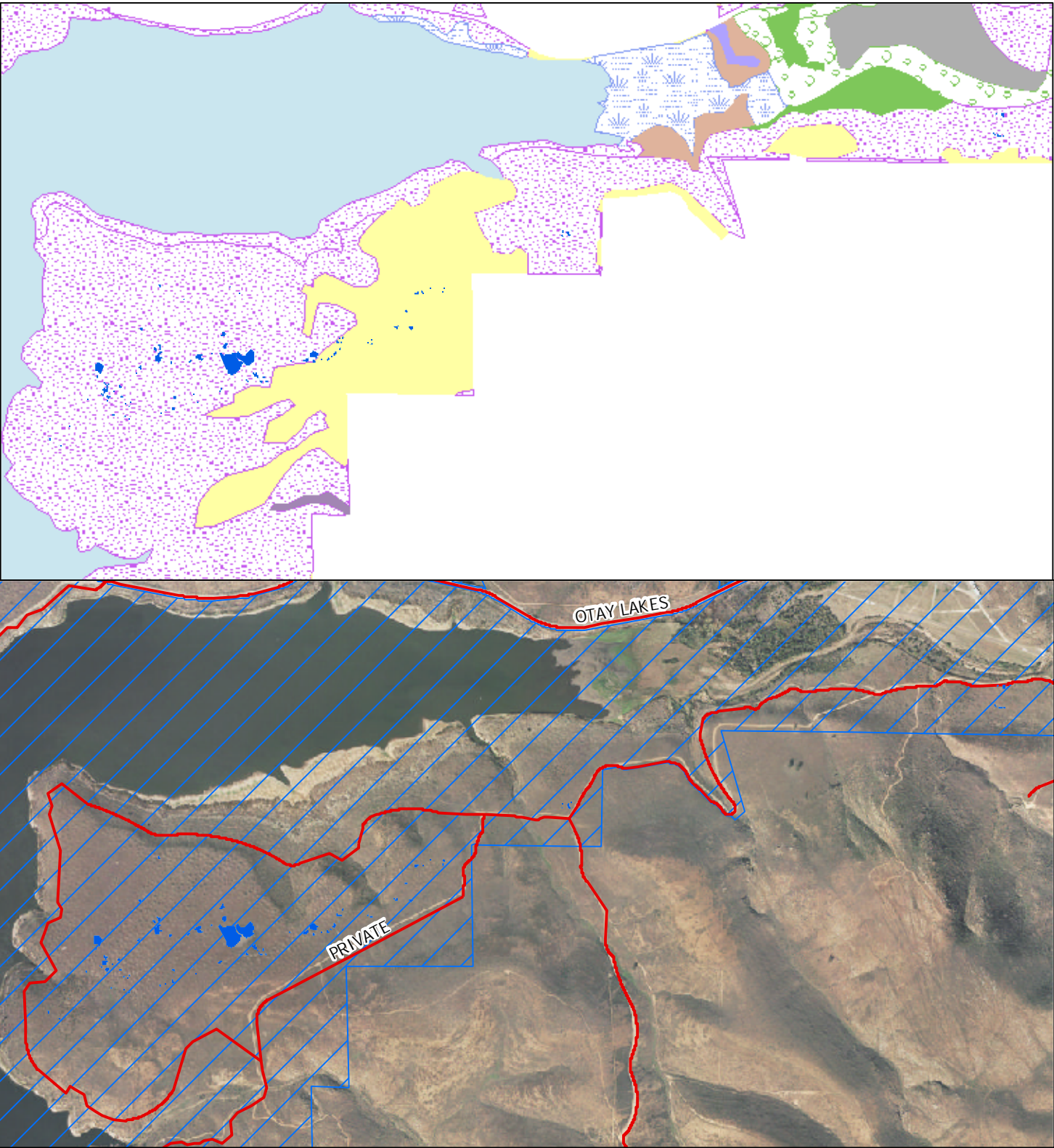
The Vernal Pool Management Plan (City of San Diego, 1996) made the following recommendations: Investigate previously unidentified resources, conduct assessment of vernal pool resources, conduct inspections of physical conditions, restore disturbed areas, and minimize disturbances. The first three recommendations have been accomplished as part of the 2002-2003 Vernal Pool Inventory (City of San Diego, 2004). Restoration of disturbed areas, where appropriate, and the minimization of disturbance from surrounding development should continue to be management priorities. To maintain the condition of the area, the site manager should continue to limit access through gates, fencing and patrols.

Restoration and reintroduction efforts shall utilize seeds from within the smallest possible geographic range, in the following order, as necessary: complex, series, geographic region (i.e. Otay Mesa). Non-native species such as *Erodium* spp. have invaded many of the vernal pool basins at Otay Lakes. Any enhancement and/or restoration efforts should include a weed eradication program to restore native species composition to the vernal pools. This site was identified as necessary to stabilize the populations of *E. aristulatum* and *N. fossalis* by the adopted *Recovery Plan for Vernal Pools of Southern California* (USFWS, 1998). All management activities should promote the stabilization and recovery of these species.

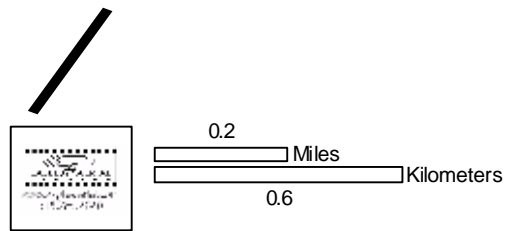
Two post-fire surveys have been conducted at the Otay Lakes vernal pools. Annual monitoring should be continued to document any further fire-related changes in the vernal pool ecosystems. Maintain and monitor non-native species removal conducted through the SANDAG TransNet grant, and pursue additional funding for similar activities, as necessary.

Given the fire history of the site and its proximity to development, the necessity of future fire suppression efforts are likely. To decrease the threat of damage to vernal pools on-site, signage for fire crews should be supplied, providing identification of sensitive resource areas. If funding becomes available, this may also include the preparation of a fire management plan.

Figure 41



Otay Lakes (K 3, 5, 10, 13)



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|-------------------------|---------------------|-----------------------|
| — Roads | Coastal Sage Scrub | Riparian Scrub |
| — MHPA | Chaparral | Tecate Cypress Forest |
| — Conserved Lands | Grassland | Open Water |
| — Vernal Pools at Site | Freshwater Marsh | Disturbed Wetland |
| — Adjacent Vernal Pools | Riparian Forest | Disturbed Land |
| | Oak Riparian Forest | Urban/Developed |
| | Riparian Woodland | No Data |

Note: MHPA and Roads not shown in top map; vegetation mapping per Ogden 1997.

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8.1.8.c *Otay Filtration Plant (K series)*

Site Description and Existing Conditions

Otay Filtration Plant (K series) is a one-acre easement owned and managed by the City of San Diego Water Department. It is located southwest of Otay Lakes Reservoir along Wueste Road, approximately 1,000 north of the filtration plant, is within the MHPA and is conserved. Surrounding land uses are open space, including a mitigation site for Otay Ranch, and transportation.

One vernal pool (approximately 109 m² [.03 acres]) was mapped within the City easement; additional basins occur on the adjacent mitigation parcel. The basins are natural, and occur in the Olivenhain cobbly loam. The upland vegetation is characterized by coastal sage scrub and eucalyptus groves. No sensitive plant species were observed; however, *B. sandiegonensis* was found in two historic surveys (PSBS, 1995; Simovich and Fugate, 1992).

Impacts occurred to the site in 1993 during installation of a pipe by the County Water Authority (CWA). CWA worked with the U.S. Army Corps of Engineers and the Water Department to restore the area and decrease the likelihood of future impacts.

Threats

Invasive Species

Vegetation species at the Otay Filtration Plant are primarily native; however, some non-natives occur (e.g. *Rumex crispus*).

Trespass

Boulders and fencing have been placed in several locations to minimize access, and additional fencing is being proposed by the Water Department.

Fire/Fire Suppression

Tecolote Canyon is located in an urban area surrounded by residential development. In the unlikely event of a fire in this location, impacts may occur from fire suppression activities.

The Otay Filtration Plant is adjacent to large rural and preserve areas where fire plays an important part in the natural ecologic regime. The nearby Otay Lakes vernal pools burned most recently in 2003, and a comparison of pre- and post-fire surveys did not reveal negative impacts to sensitive species or their physical habitat. Therefore, a natural fire regime does not appear to threaten the species presence or abundance in vernal pool ecosystems. However, fire-fighting activities may disturb this area.

Current Management Activities

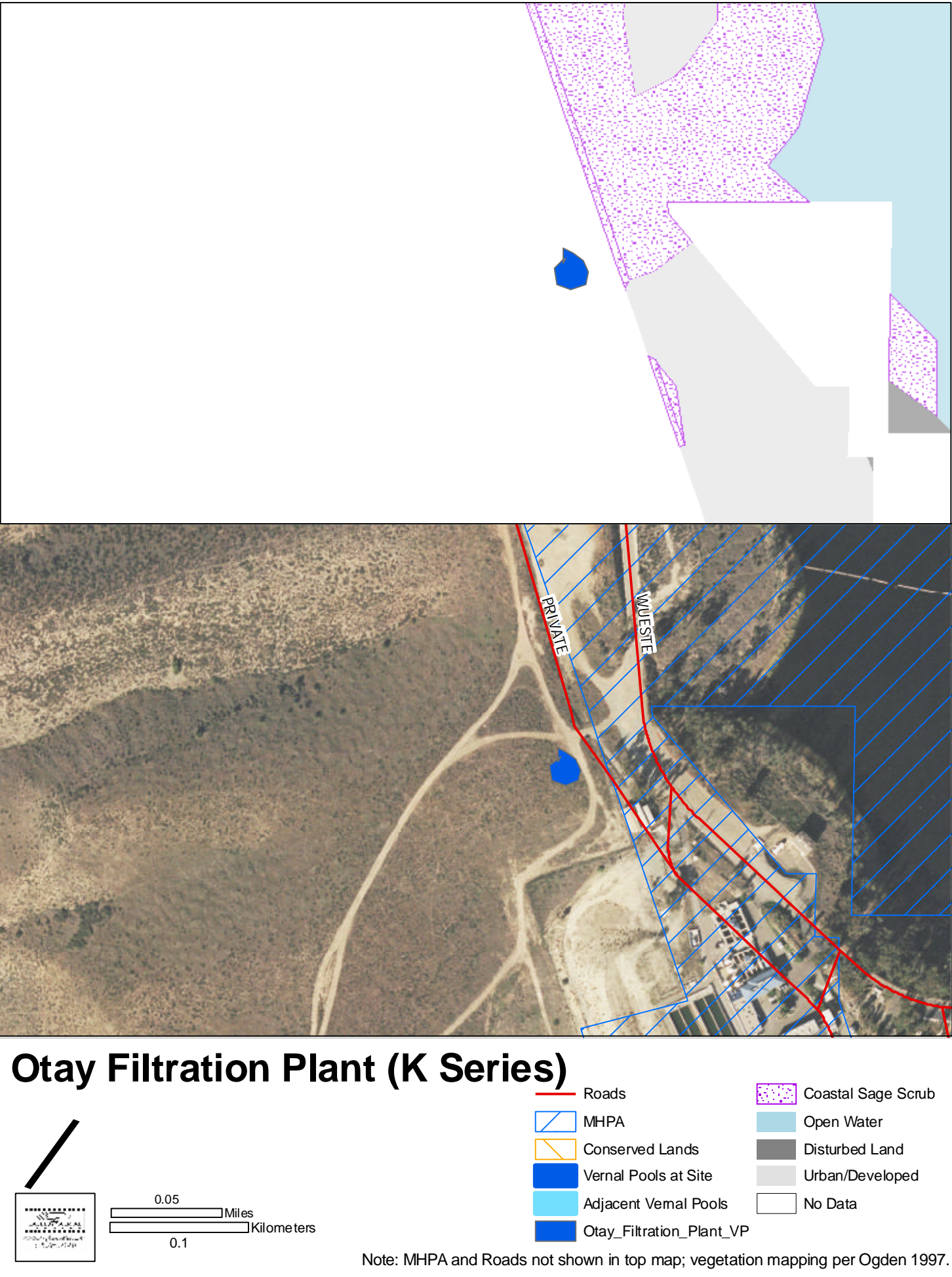
The site is managed by reservoir managers and other staff of the Water Department. Management activities include installation and maintenance of fencing and signage.

Management Recommendations

The Vernal Pool Management Plan (City of San Diego, 1996) made the following recommendations: Conduct assessment of vernal pool resources, conduct inspections of physical conditions, and restore disturbed areas.

To maintain the condition of the area, the site manager should continue to limit access through gates, fencing and patrols.

Figure 42



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